

REVISED  
FINAL DRAINAGE REPORT  
AND PLAN  
for

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P. C. INDUSTRIAL PARK ADDITION  
Wichita, Kansas

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November 29, 1985  
Baughman Company, P.A.  
330 Laura  
Wichita, Kansas

REVISED

FINAL DRAINAGE REPORT FOR  
P.C. INDUSTRIAL PARK ADDITION

I. General

The P.C. Industrial Park Addition plat is located south of 47th Street South and west of Water Street in Wichita, KS. The tract of ground is being platted to confirm requirements placed on the parcel of land. The addition is zoned for industrial development usage. The addition will not be allowed to develop for several years. Presently the tract of ground is adjacent to paved Water Street on the east side adjacent to Railroad R.W. on the west side of the property. The 31 acre tract drains generally south with a small portion of the Lot draining to the north to 47th St. The R.R. R.W. at the west side of the property will not discharge onto or across any portion of this land.

Presently, a 100' wide drainage easement dedication exists adjacent to the south end of the plat and also along a portion of the east side of the plat as indicated on the plan. In addition to this dedication, a 65' wide floodway dedication exists at the south end of Fireball Addition which is adjacent to the east side of Water St. and south of 48th St. So.

Earlier drainage studies performed by Van-Doreen, Hazard, and Stallings in conjunction with Fireball Addition indicate the need for approximately 4 AC-FT of storage to be provided for the 25 acres within Fireball Addition. This volume is provided for within the 65' floodway pond area along the south end of the Fireball plat. Fireball Addition is presently developed as an industrial site which discharges into the floodway.

The 100' drainage easement was acquired to provide an outlet discharge to a point at the southwest corner of the P.C. Industrial Park. Presently, There is no outlet discharge past this point but future plans are to relieve this

storage system by either (1) The property to the south de-  
veloping which would connect with the excavated channel  
further to the south, or (2) The South Seneca Storm Drainage  
project proposed by The City being constructed which will  
relieve this area.

The City of Wichita constructed the pavement and storm  
sewers for Water and 48th St. in prior years with the storm  
sewer system discharging into the 100' drainage easement with-  
out any outlet. The runoff storm water discharges from Water  
Street thru a 24" RCP and ponds in the easement area until  
infiltration relieves the site. The average depth of the  
pond in the easement is five to six feet.

A soil investigation report was performed for this area  
in 1978 by Engineering Testing Company of Wichita. The report  
identifies subsoil types with borings taken as silty sands and  
pure sands which are capable of passing water into the ground  
water vertically with ease from elevations 85 to 79. Average  
water table elevation at that time was observed to be 75.5.  
Soil conditions are identified for the plat are in an earlier  
drainage report submitted to the City of Wichita.

## II. Drainage Calculations

The area within Fireball Addition which will drain south into the floodway dedication is approximately 18.0 acres in size. The area from the P.C. Industrial plat is approximately 25.0 acres in size which will drain south to the ponding site. Another area approximately 5.2 acres in size includes street R.W. and drainage easements also will discharge into this system. The total amount of drainage areas which will generate runoff for the ponding site is 48.2 acres.

The design storm considered for this plan is the 6 inch-6 hour rainfall amount for volume considerations for the pond site. Using a conservative figure for S.C.S. runoff curve number of 91, the amount of runoff to be generated from the 6 inch storm will be 4.95 inches.

Design Volume -

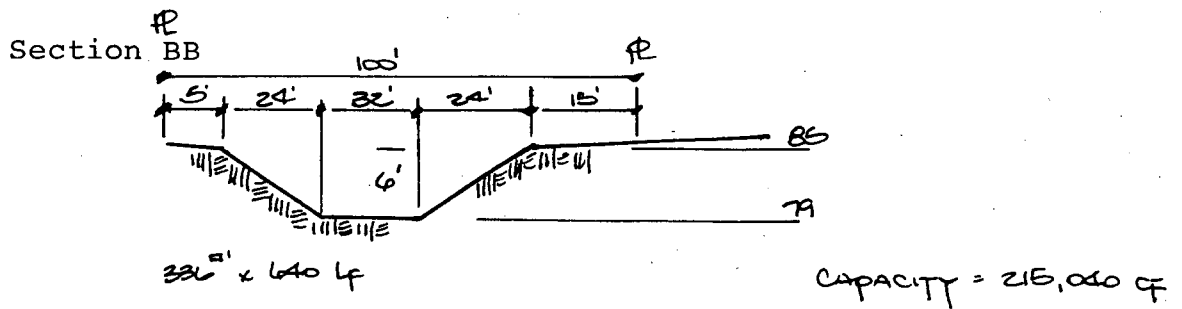
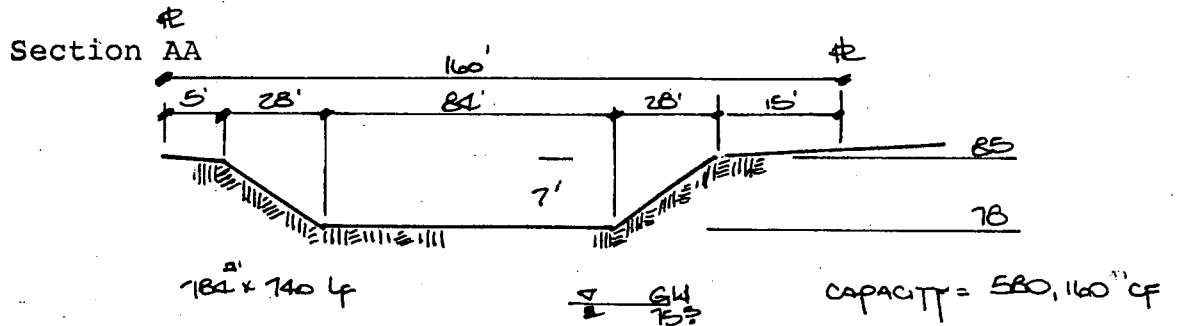
$$48.2 \text{ Ac. } (4.95 \text{ in./12}) = 19.9 \text{ AC-FT}$$

The amount of storage to be provided to accept runoff from these three areas should be approximately 20 AC-FT.

III. Proposed Improvements

Should development occur in the next few years within P.C. Industrial Park Addition, the ponding excavations and enlargements would need to be constructed according to the following design sections. The channel within the Fireball Addition will not be improved upon. The present capacity in the floodway area of Fireball Addition is 2.6 AC-FT to an elevation of 85.

The proposed drainage ditch sections and capacity for the easements are as follows:



|                     |   |             |
|---------------------|---|-------------|
| TOTAL AA + BB       | = | 795,200 CF. |
| + FIREBALL ADDITION | = | 114,135 CF  |

|                |   |             |
|----------------|---|-------------|
| TOTAL CAPACITY | = | 909,335 CF  |
| VOLUME         | = | 20.9 AC-FT. |

The total available storage capacity after all improvements are made would be approximately 20.9 AC-FT. This would adequately provide the volume requirements for the major storm. All of this work will be included within a petitioned storm drain project to be established for this plat.

#### IV. Conclusion

As indicated, P.C. Industrial Park Addition is not planned to be developed on for several years. The design plan proposed herein provided appropriate volume storage for the major design storm to be ponded to an elevation of 85.0 should development occur. It is anticipated that soon, one of two things will happen: either (1.) The City of Wichita's South Seneca Drainage Project will be activated and constructed which will drain this area or (2.) The property to the south of this plat will develop which will provide an open channel connecting link to the south into an existing channel drainage outlet within Robbins Farm 2nd Addition.

Either of these two items will preclude the need for the pond widening to be constructed as long as the plat does not develop.

The appropriate additional 60 foot of drainage easement is indicated on the plat at the south end. The proposed improvements will be guaranteed by a storm drain petition.

All interior site grading and storm sewers will be designed for at the time development plans are initiated for P.C. Industrial Park. The runoff from the Lot will be discharged into the ditch sections thru either flumes or storm sewers with adequate erosion controls or to Water Street thru driveways.